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MST1 Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP7922a

Specification

MST1 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession Q13043

MST1 Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 6789

Other Names
Serine/threonine-protein kinase 4, Mammalian STE20-like protein kinase 1, MST-1, STE20-like kinase MST1, Serine/threonine-protein kinase Krs-2, Serine/threonine-protein kinase 4 37kDa subunit, MST1/N, Serine/threonine-protein kinase 4 18kDa subunit, MST1/C, STK4, KRS2, MST1

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7922a was selected from the C-term region of human MST1 . A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

MST1 Antibody (C-term) Blocking Peptide - Background

MST1 is a cytoplasmic kinase that is structurally similar to the yeast Ste20p kinase, which acts upstream of the stress-induced mitogen-activated protein kinase cascade. The encoded protein can phosphorylate myelin basic protein and undergoes autophosphorylation. A caspase-cleaved fragment of the encoded protein has been shown to be capable of phosphorylating histone H2B. The particular phosphorylation catalyzed by this protein has been correlated with apoptosis, and it is possible that this protein induces the chromatin condensation observed in this process.

MST1 Antibody (C-term) Blocking Peptide - References

Cheung, W.L., et al., Cell 113(4):507-517 (2003).Lin, Y., et al., J. Biol. Chem. 277(50):47991-48001 (2002).De Souza, P.M., et al., Blood 99(9):3432-3438 (2002).Ura, S., et al., Proc. Natl. Acad. Sci. U.S.A. 98(18):10148-10153 (2001).Taylor, L.K., et al., Proc. Natl. Acad. Sci. U.S.A. 93(19):10099-10104 (1996).

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MST1 Antibody (C-term) Blocking Peptide - Protein Information

Name STK4

Synonyms KRS2, MST1

Function
Stress-activated, pro-apoptotic kinase which, following caspase-cleavage, enters the nucleus and induces chromatin condensation followed by internucleosomal DNA fragmentation. Key component of the Hippo signaling pathway which plays a pivotal role in organ size control and tumor suppression by restricting proliferation and promoting apoptosis. The core of this pathway is composed of a kinase cascade wherein STK3/MST2 and STK4/MST1, in complex with its regulatory protein SAV1, phosphorylates and activates LATS1/2 in complex with its regulatory protein MOB1, which in turn phosphorylates and inactivates YAP1 oncoprotein and WWTR1/TAZ. Phosphorylation of YAP1 by LATS2 inhibits its translocation into the nucleus to regulate cellular genes important for cell proliferation, cell death, and cell migration. STK3/MST2 and STK4/MST1 are required to repress proliferation of mature hepatocytes, to prevent activation of facultative adult liver stem cells (oval cells), and to inhibit tumor formation (By similarity). Phosphorylates 'Ser-14' of histone H2B (H2BS14ph) during apoptosis. Phosphorylates FOXO3 upon oxidative stress, which results in its nuclear translocation and cell death initiation. Phosphorylates MOBKL1A, MOBKL1B and RASSF2. Phosphorylates TNNI3 (cardiac Tn-I) and alters its binding affinity to TNNC1 (cardiac Tn-C) and TNNT2 (cardiac Tn-T). Phosphorylates FOXO1 on 'Ser-212' and regulates its activation and stimulates transcription of PMAIP1 in a FOXO1-dependent manner. Phosphorylates SIRT1 and inhibits SIRT1-mediated p53/TP53 deacetylation, thereby promoting p53/TP53 dependent transcription and apoptosis upon DNA damage. Acts as an inhibitor of PKB/AKT1. Phosphorylates AR on 'Ser-650' and suppresses its activity by intersecting with PKB/AKT1 signaling and antagonizing formation of AR- chromatin complexes.

Cellular Location

Cytoplasm. Nucleus. Note=The caspase-cleaved form cycles between the nucleus and cytoplasm

Tissue Location
Expressed in prostate cancer and levels increase from the normal to the malignant state (at protein level). Ubiquitously expressed.

MST1 Antibody (C-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides